



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

# SCIENCE

EDITORIAL COMMITTEE : S. NEWCOMB, Mathematics ; R. S. WOODWARD, Mechanics ; E. C. PICKERING, Astronomy ; T. C. MENDENHALL, Physics ; R. H. THURSTON, Engineering ; IRA REMSEN, Chemistry ; JOSEPH LE CONTE, Geology ; W. M. DAVIS, Physiography ; HENRY F. OSBORN, Paleontology ; W. K. BROOKS, C. HAET MERRIAM, Zoology ; S. H. SCUDDER, Entomology ; C. E. BESSEY, N. L. BRITTON, Botany ; C. S. MINOT, Embryology, Histology ; H. P. BOWDITCH, Physiology ; J. S. BILLINGS, Hygiene ; WILLIAM H. WELCH, Pathology ; J. McKEEN CATTELL, Psychology ; J. W. POWELL, Anthropology.

FRIDAY, JULY 13, 1900.

ON KATHODE RAYS AND SOME RELATED PHENOMENA.\*

## I.

CONTENTS :	
<i>The American Association for the Advancement of Science :—</i>	
<i>On Kathode Rays and some related Phenomena (I) : PROFESSOR ERNEST MERRITT.....</i>	41
<i>Some Twentieth Century Problems : PROFESSOR WILLIAM TRELEASE.....</i>	48
<i>The Structure and Signification of certain Botanical Terms : DR. CHARLES A. WHITE.....</i>	62
<i>Lymphosporidium Truttae, Nov. Gen., Nov. Spec., the cause of a recent Brook Trout Epidemic : DR. GARY N. CALKINS.....</i>	64
<i>Embryology of <i>Lepas</i> : MAURICE A. BIGELOW....</i>	65
<i>Ernst Hartig : PROFESSOR R. H. THURSTON.....</i>	66
<i>Scientific Books :—</i>	
<i>Pearson's, <i>The Grammar of Science</i> : PROFESSOR JOSEPH JASTROW. Whipple on the Microscopy of Drinking Water : PROFESSOR CHARLES A. KOFOID. Pozzi-Escot's <i>Analyse Chimique Qualitative</i> : PROFESSOR EDWARD RENOUF.....</i>	67
<i>Discussion and Correspondence :—</i>	
<i>Deformed <i>Sterna</i> in the Domesticated Fowl : F. A. LUCAS. Remarks of the Loess in North China : FRED. B. WRIGHT ; Power of the Eye : HIRAM M. STANLEY .....</i>	71
<i>Current Notes on Physiography :—</i>	
<i>Glacières or Freezing Caverns ; The Old Mountains of Michigan ; Water power in North Carolina : PROFESSOR W. M. DAVIS.....</i>	73
<i>Botanical Notes :—</i>	
<i>Recent Books for Secondary Schools ; A Study of Non-indigenous Plants ; New Species of Insect Parasites ; Physiology of Tobacco : PROFESSOR CHARLES E. BESSEY .....</i>	74
<i>The Recent Solar Eclipse .....</i>	76
<i>The Third International Conference on a Catalogue of Scientific Literature .....</i>	77
<i>Scientific Notes and News.....</i>	78
<i>University and Educational News.....</i>	79

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

AMONG the branches of physical investigation that have recently shown especial activity, few occupy a more prominent position at the present time than those that are related to the electrical discharge in rarefied gases. This is true not only because of the rapid development of the subject, but also because of the far reaching importance of the results, and the influence which they seem destined to exert upon widely different branches of physics. When I learned that I was to have the privilege of addressing you to-day, it appeared to me that I could not better utilize the opportunity than by briefly recalling the progress in this subject during the last few years, and calling attention to some of the results that we may reasonably hope for in the future. The whole subject of vacuum tube discharge is, of course, too large to be treated in the brief space of an hour. I shall therefore confine myself to one of its more important subdivisions, namely, the phenomena and theory of the kathode rays.

Of the many beautiful and interesting phenomena that accompany the electrical discharge in rarefied gases, certainly none has attracted such widespread attention as

\* Address of the Vice-President and Chairman of Section B (Physics) of the American Association for the Advancement of Science, given at the New York meeting.